

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
27 April 2006 (27.04.2006)

PCT

(10) International Publication Number
WO 2006/043647 A1(51) International Patent Classification:
C07D 209/88 (2006.01) H01L 51/50 (2006.01)
C09K 11/06 (2006.01)Kanagawa 2430036 (JP). KAWAKAMI, Sachiko [JP/JP];
c/o SEMICONDUCTOR ENERGY LABORATORY CO.,
LTD., 398, Hase, Atsugi-shi, Kanagawa 2430036 (JP).
KUMAKI, Daisuke.

(21) International Application Number:

PCT/JP2005/019349

(22) International Filing Date: 14 October 2005 (14.10.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2004-304225	19 October 2004 (19.10.2004)	JP
2004-333344	17 November 2004 (17.11.2004)	JP
2005-084533	23 March 2005 (23.03.2005)	JP

(71) Applicant (for all designated States except US): SEMICONDUCTOR ENERGY LABORATORY CO., LTD. [JP/JP]; 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).

(72) Inventors; and

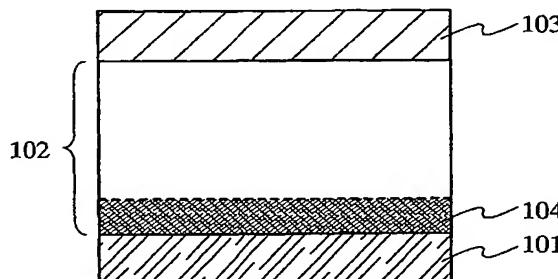
(75) Inventors/Applicants (for US only): NAKASHIMA, Harue [JP/JP]; c/o SEMICONDUCTOR ENERGY LABORATORY CO., LTD., 398, Hase, Atsugi-shi,

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

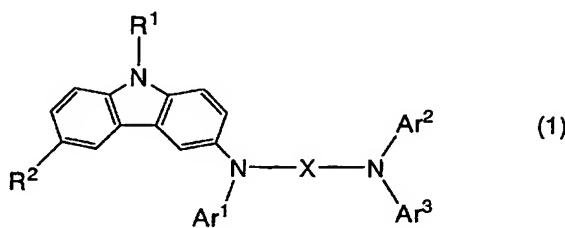
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,

[Continued on next page]

(54) Title: CARBAZOLE DERIVATIVE, AND LIGHT EMITTING ELEMENT AND LIGHT EMITTING DEVICE USING THE CARBAZOLE DERIVATIVE



(57) **Abstract:** It is an object of the present invention to provide a material which is excellent in a hole injecting property and a hole transporting property, and to provide a light emitting element and a light emitting device using a material which is excellent in a hole injecting property and a hole transporting property. The present invention provides a carbazol derivative represented by a general formula (1). The carbazol derivative according to the present invention is excellent in the hole injecting property. By using the carbazol derivative according to the present invention as a hole injecting material for a hole injecting layer of a light emitting element, a driving voltage can be reduced. In addition, a lower driving voltage, improvement of the luminous efficiency, a longer life time, and higher reliability can be realized by applying the material to a light emitting element or a light emitting device.





RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*